

Insert new claims 13-26 as follows:

13. (New) A method for producing chemical pulp from lignocellulosic material by means of alkaline cooking, comprising:

cooking the material to pulp at a cooking temperature in a batch digester, to produce a cooked material;

essentially relieving overpressure by cooling the cooked material to a temperature between about 60°C and about 85°C using a wash liquor;

discharging the cooked and cooled material from the digester by means of pumping; and treating the pulp in equipment operating essentially at atmospheric or higher pressure, wherein the temperature of the cooked and cooled material is maintained during processing stages between the digester and a first substantial delignification/bleaching stage.

14. (New) The method according of claim 13, wherein said cooling is carried out using the wash liquor comprising wash filtrate or water having a temperature from about 60° to about 80° C.

15. (New) The method of claim 14, wherein the wash filtrate has an ionic strength below 1.5 mol/l.

16. (New) The method of claim 14, wherein the wash filtrate has a pH between about 9 and about 13.

17. (New) The method of claim 13, wherein said cooling is carried out using liquid displacement with an average flow of between about 10 and about 50 dm<sup>3</sup>/min per m<sup>3</sup> digester volume.

18. (New) The method of claim 17, wherein the digester volume is between about 10 and 35 dm<sup>3</sup>/min per m<sup>3</sup>.

19. (New) The method of claim 13, wherein the wash liquor surrounding the cooked and cooled material during said processing stages between the digester and a first substantial delignification/bleaching stage has a pH above 11, and wherein said stages are carried out with a residence time less than about 180 minutes.

20. (New) The method of claim 19, wherein the residence time is less than about 120 minutes.

21. (New) The method of claim 13, wherein the wash liquor surrounding the cooked and cooled pulp during the processing stages between the digester and the first substantial delignification/bleaching stage is below about 13.

22. (New) The method of claim 13, wherein the wash liquor surrounding the cooked and cooled pulp during the processing stages between the digester and the first substantial delignification/bleaching stage has an ionic strength essentially between 0.01 and 1.5 mol/l.

23. (New) The method of claim 13, wherein the temperature of the cooked and cooled material is maintained during processing stages by means of heat exchangers (20, 24).

24. (New) The method of claim 13, wherein said first substantial delignification/bleaching stage is an oxygen delignification stage.

25. (New) The method of claim 13, wherein said pumping is carried out using one or more variable speed pumps.

26. (New) The method of claim 13, further comprising one or more screening stages carried out at an ionic strength below 0.4 mol/l.